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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,663	01/23/2004	Bahram Khalighi	GP-303632	8227

7590 03/24/2005

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EXAMINER

ROYAL, PAUL

ART UNIT	PAPER NUMBER
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3611

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/763,663

Applicant(s)

KHALIGHI ET AL.

Examiner

Paul Royal

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on 12/10/04 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

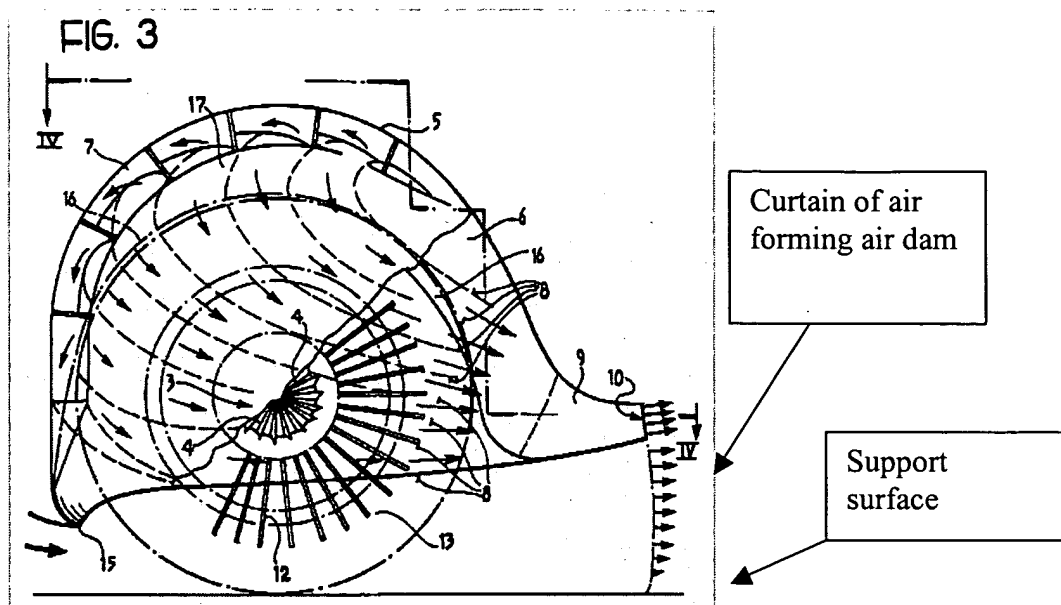
2. Claims 1-5, 13 are rejected under 35 U.S.C. 102(b) as being anticipated by

Morelli et al. (US 5,820,203) teaches a vehicle drag reducing device having:

a forward end including an elongate shroud conduit housing (5) having an inlet opening (7) configured for receiving air and an outlet aperture (10) for directing air at a reduced drag along the bottom of vehicle,

the conduit (5) configured to be supportable on the underside of a front end portion of the movable support (vehicle) and is spaced from a support surface for the vehicle,

the conduit (5) having an adjustable blower source (2,4,11) of air under pressure and is spaced sufficiently from any normal abutment on the support surface to avoid the abutment and operable to project a curtain of air from the forward end toward the support surface with sufficient flow and direction to form the virtual airdam sufficiently to reduce vehicle drag, see column 5, lines 44-67 and Figure 3 which indicates the airflow effects extend from the support surface.

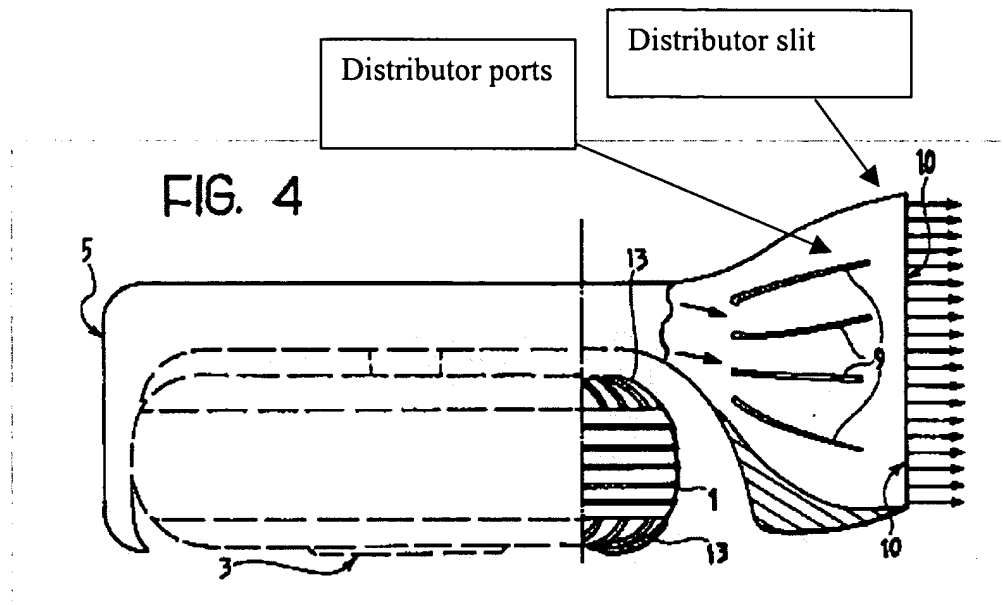


and a series of ports (9) in the conduit for projecting the curtain of air, wherein the source of air is an adjustable fan (note, the blower source 2,4, 11 is part of a fan where the blade speeds adjust depending upon the speed at which the tires rotate).

Note, the blades (2,4,11) of Morelli et al. are taught to operate as a blower source, see column 2, lines 54-67.

For claim 2, the distributor/conduit (9) includes a series of ports as shown below.

For claim 3, the exit of the distributor/conduit (9) includes a slit as shown below.



Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morelli et al., as applied to claim 1, in view of O'Connell et al. 6,224,843.

Morelli et al. teaches a vehicle projecting a curtain of air from the front end to form a virtual airdam to reduce vehicle drag and increase volumetric air flow but does not teach including a fuel cell and a radiator in air flow communication with a source of air under pressure.

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O'Connell et al. teaches a motor vehicle front section including an engine (12), fuel cell (36) and a radiator (62) in air flow communication to provide a vehicle having maximized passenger compartment space which uses fuel cells in place of internal combustion engines.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the vehicle of Morelli et al. to include the motor vehicle front section to include having the fuel cell and a radiator in air flow communication with the source of air under pressure to provide a vehicle having maximized passenger compartment space which uses fuel cells in place of internal combustion engines.

Note, where the radiator receives ram air when the vehicle moves, the ram air is air under pressure when it contacts the radiator, rather than stagnant air.

Note that the engine (12), fuel cell (36), and radiator (62) of O'Connell, when combined with Morelli et al. (see Figure 6) are positionable to be in the same path of air flow and communication.

Response to Arguments

4. Applicant's arguments, with respect to the rejection(s) of claim(s) 1-15 under Lay and Wainfan et al. have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Morelli et al., and O'Connell et al.

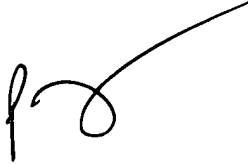
Conclusion


5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Englar teaches an aerodynamic vehicle. Cowan et al. teaches an aerodynamic automobile. Joyce Jr. teaches an air cushion vehicle. Bertelsen teaches a ground effect machine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Royal whose telephone number is 703-308-8570, note effective approximately April 2005 the Examiner's phone number will be 571-272-6652 . The examiner can normally be reached on 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley D. Morris can be reached on 703-308-0629. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


P. Royal
3/17/05


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